

Dalton Utilities

Private Drinking Water Well Monitoring Report

Revised January 2010

# Dalton Utilities Drinking Water Well Monitoring Report

## Table of Contents

<b>Executive Summary .....</b>	<b>3</b>
<b>Drinking Water Well Monitoring Report.....</b>	<b>4</b>
1. Identified Locations for Survey .....	4
2. Sample Collection .....	5
3. Vacant Residences .....	5
4. Sample Analyses .....	6
5. Summary of Analytical Results .....	6
6. Additional Actions .....	7
7. Future Reports.....	8

## Attachments

Attachment A	Correspondence from North Georgia Health District
Attachment B	List of Compounds for Analyses
Attachment C	List of Locations that Refused Sampling
Attachment D	Analytical Report on PFC Analysis Lot # D9H110160
Attachment E	Analytical Report on PFC Analysis Lot # D9H120160
Attachment F	Analytical Report on PFC Analysis Lot # D9H150176
Attachment G	Analytical Report on PFC Analysis Lot # D9H220152
Attachment H	Analytical Report on PFC Analysis Lot # D9H250123
Attachment I	Analytical Report on PFC Analysis Lot # D9H260198
Attachment J	Analytical Report on PFC Analysis Lot # D9I010246
Attachment K	Analytical Report on PFC Analysis Lot # D9I020235
Attachment L	Analytical Report on PFC Analysis Lot # D9I040249
Attachment M	Analytical Report on PFC Analysis Lot # D9I100275
Attachment N	Analytical Report on PFC Analysis Lot # D9I120206
Attachment O	Analytical Report on PFC Analysis Lot # D9I150267
Attachment P	Summary of Analytical Results
Attachment Q	Map of All Private Well Sample Locations
Attachment R	Map of All Private Well Samples above Reporting Limit

# Dalton Utilities Drinking Water Well Monitoring Report

## Executive Summary

In May 2009, Dalton Utilities collected samples at various locations on the LAS. In response to sample results obtained from the ground water monitoring wells on the LAS, Dalton Utilities decided to conduct a drinking water well survey to identify private drinking water that had the potential to have been impacted by the ground water coming from the LAS. Dalton Utilities designed the well survey to begin in the immediate vicinity of the LAS in areas deemed to be downgradient and where it was questionable as to the availability of public drinking water and then expand out to test all residential locations that use a well for potable water in a one mile radius around the LAS property boundary.

The private drinking water well survey was conducted in accordance with Dalton Utilities Private Drinking Water Well Survey Protocol. The private drinking water well survey began in August 2009 and is essentially complete. The lists of residential locations by road name were confirmed and corrected using actual field surveys of each and every road to ensure all locations were identified and included in the private well survey. Each location was cross checked against Dalton Utilities drinking water customer database in addition to the other public drinking water systems in the area. Any location not shown to have public drinking water was surveyed to determine if the location utilized a private well for its drinking water source. If a private well was being utilized for drinking water, the well was immediately sampled to determine the levels of Perfluorinated Compounds (PFCs), if any, in the private well.

The private drinking water wells sample results indicated 102 wells did not have levels of PFOA and PFOS above the contract laboratory's reporting limit or level of quantification. Seven wells indicated levels of PFOA or PFOS at or above the contract laboratory's reporting limit or level of quantification and require quarterly sampling for at least four consecutive quarters. One well was indicated a level of PFOS at or slightly above the published public health advisory level. The resident at this location is being provided bottled water pending connection to public water. None of the wells sampled indicated levels of PFOA above the published public health advisory level.

Beyond these follow up actions and based on the results of the private drinking water well survey, no additional survey work is required at this time.

## Dalton Utilities Drinking Water Well Monitoring Report

### Drinking Water Well Monitoring Report

#### 1. Identified Locations for Survey

In accordance with Dalton Utilities Private Drinking Water Well Survey Protocol, all locations within a one mile radius of Dalton Utilities Land Application System (LAS) boundary were compiled. These locations were then cross referenced against Dalton Utilities' customer database in addition to the other public drinking water systems in the area. Any location not shown to have public drinking water was compiled as locations for potential sampling as part of this project.

These locations were then contacted via telephone and/or in person by representatives of Dalton Utilities to verify if a private drinking water well was being utilized by the residence. If a private well was being utilized as the primary drinking water source, permission was obtained from an adult resident to sample the well with respect to PFCs. If a public water system connection was being utilized as the primary source of drinking water, it was noted in the records and no sample was collected.

All locations noted in the field to not be a part of the existing list of potential survey locations were added to the list and the residents contacted to determine the presence of a private drinking water well and sampling conducted, if necessary. Any location found to utilize a public drinking system connection was noted as such in the survey records and no sample was collected.

At the suggestion of the United States Environmental Protection Agency (EPA), Dalton Utilities sought to review any Intent to Drill forms the Whitfield County and Murray County Health Department possessed for locations within the survey's one mile radius. Per the District Director of Environmental Health of the North Georgia Health District, which includes Whitfield and Murray Counties, they do not have any such forms for locations within the targeted area. Therefore, no additional locations were compiled from this source. The correspondence from the North Georgia Health District to Dalton Utilities dated October 20, 2009, is attached herein as Attachment A.

To ensure no additional locations exist in the survey radius, Dalton Utilities has requested all available information from the Georgia Environmental Protection Division as they are the governing agency for well drillers in the State of Georgia per the North Georgia Health District's correspondence. Any additional locations in the survey radius determined to not be part of the initial survey will be added to the list and the residents contacted to determine the presence of a private drinking water well and sampling conducted, if necessary. Any subsequent analytical results received by Dalton Utilities pursuant to this sampling will be submitted to EPA within five (5) days and included in the monthly progress report to EPA in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

## Dalton Utilities Drinking Water Well Monitoring Report

To date, Dalton Utilities has surveyed over 1,900 locations on XX roads to determine the existence of a private drinking water well within the one mile radius of Dalton Utilities Land Application System (LAS) boundary. All of the locations compiled through the methodology delineated in the Dalton Utilities Private Drinking Water Well Survey Protocol have been surveyed.

### 2. Sample Collection

Identified locations were verified to utilize either a public water system connection or private well as their primary source of drinking water. If a private drinking water well was being utilized, a sample was collected immediately after obtaining verbal permission from an adult resident. The sample was collected by qualified personnel and in accordance with EPA's Standard Operating Procedure for Potable Water Supply Sampling, SESDPROC-305-R1. Latitudes and longitudes, using Global Positioning System (GPS) equipment, were also obtained for each sample collection location.

The sample was then properly labeled and submitted to a contract laboratory for analysis of the compounds indicated in Attachment B. At the time of this survey, the selected contract laboratory did not have standards and/or validated methods developed for the additional Perfluorinated chemicals (PFCs) noted in the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009. As such, the list of compounds indicated in Attachment B reflects the full current analytical capabilities of the contract laboratory as well as the corresponding detection limits with respect to PFCs.

To date, Dalton Utilities has verified that 1,760 locations surveyed utilized a public water system connection. 115 private wells were found as being utilized as primary sources of drinking water. Verbal consent was obtained from an adult resident for 110 of the private drinking water wells. The residents at five locations found to utilize a private drinking water well refused to grant Dalton Utilities access to the private well for sampling purposes (see Attachment C for locations). All 110 of the consenting locations were sampled immediately following verification and consent and were analyzed for the compounds listed in Attachment B.

### 3. Vacant Residences

For locations where there were no signs of occupancy, such as foreclosed or abandoned properties, contact with a resident could not be made. Dalton Utilities is researching property records to determine additional means of notification and sending written correspondence to these addresses requesting the owner contact Dalton Utilities to determine the existence of a private drinking water well and coordinate sampling of the well, if any. Any subsequent analytical results received by Dalton Utilities pursuant to this sampling will be submitted to EPA

## Dalton Utilities Drinking Water Well Monitoring Report

within five (5) days and included in the monthly progress report to EPA in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

### 4. Sample Analyses

Post collection, samples were properly labeled and submitted to a contract laboratory for analysis of the compounds indicated in Attachment B. The samples were analyzed in accordance with the contract laboratory's standards, protocols, and validated methodology which is noted as DEN-LC-0012 in the final analytical reports. At the time of this survey, the selected contract laboratory did not have standards and/or validated methods developed for the additional Perfluorinated chemicals (PFCs) noted in the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009. As such, the list of compounds indicated in Attachment B reflects the full current analytical capabilities of the contract laboratory as well as the corresponding detection limits with respect to PFCs.

Final analytical results for all wells received to date by Dalton Utilities are attached as Attachments D, E, F, G, H, I, J, K, L, M, N, and O which are provided herein as bound reports titled Test America Laboratories, Inc. Analytical Report on Perfluorocarbon (PFC) Analysis Lot # D9H110160 which contains 642 pages, Lot # D9H120160 which contains 230 pages, Lot # D9H150176 which contains 473 pages, Lot # D9H220152 which contains 480 pages, Lot # D9H250123 which contains 326 pages, Lot # D9H260198 which contains 331 pages, Lot # D9I010246 which contains 700 pages, Lot # D9I020235 which contains 387 pages, Lot # D9I040249 which contains 859 pages, Lot # D9I100275 which contains 276 pages, Lot # D9I120206 which contains 503 pages, and Lot # D9I150267 which contains 277 pages, respectively.

Dalton Utilities has received preliminary results for the remaining private wells; however, final analytical results for these wells have not been received from the contract laboratory. In accordance with the Clean Water Act (CWA) Section 308 Information Request from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009, Dalton Utilities will provide EPA with the final analytical results within five (5) days of receipt of said results.

### 5. Summary of Analytical Results

A summary of the preliminary and final results are attached herein as Attachment P. Additionally, the GPS coordinates collected for each sample location are noted on Attachment P and were uploaded to Dalton Utilities internal geographic information system (GIS) mapping system. The locations where samples were collected from private water wells are illustrated in Attachment Q.

## Dalton Utilities Drinking Water Well Monitoring Report

Upon review, you will notice some of the samples collected from private drinking water wells indicated on Attachment Q are outside of the survey's one mile radius. For these locations, there were insufficient markers in the field to properly determine when the full one mile radius had been surveyed. Therefore, to err on the side of caution, the survey continued in these areas until it was verified that the complete one mile radius had been encompassed in the survey.

As shown in Attachment P, of the 110 private wells sampled, 102 wells (93%) were determined to have levels of PFOA and PFOS below the contract laboratory's reporting limit or level of quantification. Further, as indicated in Attachment P, eight wells out of the 110 sampled (7%) were determined to have levels of PFOA or PFOS at or above the contract laboratory's reporting limit or level of quantification. The respective location of the private well samples determined to have levels of PFOA or PFOS at or above the contract laboratory's method detection limit or level of quantification are indicated in Attachment R.

As shown in Attachment R, only one of these eight wells, less than 1% of the total wells sampled, was determined to be at or slightly above the published public health advisory level for PFOS. None of the wells sampled indicated levels of PFOA above the published public health advisory level.

Additionally, as shown in Attachment P, the quality control duplicates, field blanks, and trip blanks indicate the expected results which illustrates the proper procedures were utilized and no unforeseen contamination occurred during the sampling events.

### 6. Additional Actions

The one well that indicated a level slightly above the published public health advisory for PFOS in the initial sample was resampled to verify the initial results. The resample of this private well also validated the initial sample results as shown in Attachment P.

Upon receipt of the resample results, the resident was notified of the findings and bottled water provided to the home until such time as access to public water is made available. To date, Dalton Utilities has begun the process of connecting this resident to the closest public water system and will continue to furnish the resident with bottled water in the interim.

The seven wells determined to have levels of PFOA or PFOS at or above the contract laboratory's reporting limit or level of quantification and below the published public health advisory were notified of the results and permission from an adult resident obtained to sample the private drinking water well on a quarterly basis for at least four consecutive quarters for the compounds listed in Attachment B until the level of PFOA and PFOS are demonstrated to be reliably and consistently below the published health advisory levels, the private well is no

## Dalton Utilities Drinking Water Well Monitoring Report

longer serving as a supply for drinking water, or the private well serving as supply for drinking water is being treated and maintained to levels below the published health advisory levels (e.g. granular activated carbon) in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

Two additional wells were determined to have levels at or above the contract laboratory's reporting limit or level of quantification for one or more of the other PFCs. As such, these two locations will also be sampled quarterly as stipulated in the section above.

The remaining wells that were determined to have levels of PFCs below the contract laboratory's reporting limit or level of quantification were advised of the results and that additional actions were not necessary in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

Further, Dalton Utilities has evaluated these results to determine if the expansion of the survey is warranted. As a sufficient number of private wells, 110 wells, were sampled as part of this private drinking water well survey, no lack of private wells to be sampled in the initial one mile radius was found. Dalton Utilities does not have any data on the sampling of other wells, well construction data, information on specific sources of PFOA and PFOS, or data on the existence of any already identified wells located in close proximity to but outside of the initial one mile radius of this survey to be factored into this evaluation.

As only one private drinking water well indicated a level at or above the published health advisory for PFOS, no private wells indicated a level at or above the published health advisory for PFOA, and only approximately 7% of the private wells sampled indicated a level of PFOA or PFOS at or above the contract laboratory's reporting limit or level of quantification, the sample results do not indicate a necessity to expand the private well survey beyond the initial one mile radius from the LAS property boundary at this time. This is further supported by the fact that the one well that exhibited PFOS at or slightly above the published public health advisory level is located immediately adjacent to the land application system property.

After all the final analytical results of the initial survey as well as the additional quarterly sampling as required per the protocol have been received, Dalton Utilities, in conjunction with the EPA and Georgia Environmental Protection Division (EPD), will evaluate all the results to determine if the expansion of the survey is warranted.

### 7. Future Reports



## Dalton Utilities Drinking Water Well Monitoring Report

All additional actions as part of this survey will be reported to EPA as part of the monthly progress report in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009. Any additional final sample results received by Dalton Utilities as part of the initial survey or quarterly monitoring will be submitted to EPA within five (5) days as stipulated in the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.